

WHAT IS CLAIMED IS:

1. A DC regulated power supply comprising:
  - a power transistor provided for each output of a plurality of systems;
  - a control circuit, which compares a feedback value of an output voltage and a reference voltage from a reference voltage source, and controls a base current of the power transistor according to a difference of the feedback value and the reference voltage, so as to regulate the output voltage; and
  - an overheat protection circuit, which lowers the reference voltage of the reference voltage source upon detecting an overheated state in the power transistor.
2. The DC regulated power supply as set forth in claim 1, wherein the reference voltage source provides a reference voltage for each output of the plurality of systems.
3. The DC regulated power supply as set forth in claim 1, wherein the overheat protection circuit includes a switch that is provided for a line of a reference voltage of each output of the plurality of systems.
4. The DC regulated power supply as set forth in

claim 1, wherein:

the overheat protection circuit includes:

a switch provided for a line of a reference voltage of each output of the plurality of systems; and

a delay circuit, provided for at least one of the switches, that operates when reverting from the overheated state.

5. The DC regulated power supply as set forth in claim 4, wherein the delay circuit varies a timing of reverting from the overheated state with respect to each output of the plurality of systems.

6. The DC regulated power supply as set forth in claim 1, further comprising:

a temperature detecting element provided for each power transistor.

7. A DC regulated power supply comprising:

a power transistor provided for each output of a plurality of systems;

a control circuit, which compares a feedback value of an output voltage and a reference voltage from a reference voltage source, and controls a base current of the power transistor according to a difference of the feedback value

and the reference voltage, so as to regulate the output voltage; and

an overheat protection circuit, which cuts off a supply line of an input voltage to the power transistor upon detecting an overheated state in the power transistor.

8. The DC regulated power supply as set forth in claim 7, wherein:

the overheat protection circuit includes:

a switch provided for a supply line of each output of the plurality of systems; and

a delay circuit, provided for at least one of the switches, that operates when reverting from the overheated state.

9. The DC regulated power supply as set forth in claim 8, wherein the delay circuit varies a timing of reverting from the overheated state with respect to each output of the plurality of systems.

10. The DC regulated power supply as set forth in claim 7, further comprising:

a temperature detecting element provided for each power transistor.